whereby a defined structure of the fabric can be changed to adapt and optimize the actual fabric to the measured individual yarn diameters.

- $\beta$ /
- 19. The apparatus according to claim 18, wherein the at least one measuring device comprises an optoelectronic device.
- 20. The apparatus according to claim 19, wherein the optoelectronic device comprises a measuring device that carries out absolute measurements and operates in an infrared range.
- The apparatus according to claim 18, wherein the measuring device has an accuracy of at least 1/100 mm.
- The apparatus according to claim 18, wherein the defined structure of the actual fabric is graphically represented.
- The apparatus according to claim 18, wherein each structure is defined by a two dimensional matrix.
  - 24. The apparatus according to claim 22, wherein the the computed actual fabric is represented on a screen.
  - 25. The apparatus according to claim 24, wherein a representation of the computed actual fabric comprises parallel projection of an object by via a three dimensional graphics library.
  - 26. The apparatus according to claim \( 8, \) comprising an output device comprising a color printer or a color copier.
  - 27. The apparatus according to claim 18, wherein the control and evaluation device controls the at least one measuring device.

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- The apparatus according to claim 18, wherein the at least one measuring device comprises a plurality of measuring heads or measuring devices.
  - 29. The apparatus according to claim 18, wherein a fabric density is set.
  - The apparatus according to claim 18, wherein for knitted fabrics, a computation takes place in the control and evaluation device on the basis of measured yarn data.
- The apparatus according to claim 18, further comprising a statistical evaluation device that statistically evaluates measured yarn data.
  - The apparatus according to claim 18, whereby the structure input device alters or creates flat fabric structures.
  - The apparatus according to claim 18, wherein the structure input device and the control and evaluation device comprise a computer.
  - A method for development of fabrics on the basis of measured yarn data using an apparatus having a display device,

said method comprising the steps of:

measuring individual yarn diameters,

defining a freely definable structure,

computing and representing an actual fabric on the basis of the measured yarn diameters and the freely definable structure,

optimized to the measured individual yarn diameters.